

**REMARKS**

Claims 1, 2, 4-6, 8, 20-22, 24-26, 28, 30, 31, and 33 are pending in this application (Applicant notes that the Examiner's list of pending claims set forth in the "Office Action Summary" omits claim 21).

Applicant has amended claims 1, 4, 5, 20-22, 24-26, 28, 30, 31, and 33, and has canceled claims 3, 7, 9-19, 23, 27, 29, and 32. These changes do not introduce any new matter.

**Cancellation of Non-Elected Subject Matter**

In response to the election of species requirement, Applicant elected Species I for prosecution on the merits and indicated that claims 1, 2, 4-6, 8, 14, 15, 17, and 19-33 read on the elected species. In response to Applicant's election, the Examiner indicated that claims 14, 15, 17, 19, 23, 27, 29, and 32 will not be considered because they allegedly include features that are "not of Species I." Office Action at page 2. In light of Applicant's election and the Examiner's above-noted indication, Applicant has canceled claims 3, 7, 9-19, 23, 27, 29, and 32. Applicant reserves the right to pursue the subject matter defined in claims 3, 7, 9-19, 23, 27, 29, and 32 in a timely filed divisional application.

**Rejection Under 35 U.S.C. § 102**

Applicant respectfully requests reconsideration of the rejection of claims 1, 2, 4-6, 8, 20-22, 24-26, 28, 30, 31, and 33 under 35 U.S.C. § 102(b) as being anticipated by *Zhang* (US 5,359,430). As will be explained in more detail below, the *Zhang* reference does not disclose each and every feature of independent claims 1, 5, 20, 22, 24-26, 28, 30, 31, and 33, as amended herein.

Applicant has amended independent claim 1 to specify a "pixel group generation module." This module sequentially extracts, from the image, a plurality of pixel groups, with each of the pixel groups including a predetermined number of pixels selected from among the

pixels constituting the image. Applicant has further amended claim 1 to recite that the dot number specification module “specifies a number of dots to be created in each of the pixel groups, said number of dots being specified based on a result of comparison between a tone value of each of the pixels constituting each of the pixel groups and a corresponding threshold value mapped in each of dither matrices, which is provided to each of the pixel groups, wherein each of the dither matrices comprises a plurality of threshold values selected from among various types of threshold values, the number of which is greater than the number of the pixels included in each of the pixel groups, and maps the plurality of threshold values in a two-dimensional array.”

Applicant has amended independent claim 5 to define further features of the functionality of the “number data receiving module.” In particular, claim 5 has been amended to specify that the number of dots to be created in each pixel group is obtained by comparing a tone value of each of the pixels constituting each of the pixel groups and a corresponding threshold value mapped in each of dither matrices where a plurality of threshold values selected from among various types of threshold values, the number of which is greater than the number of the pixels included in each of the pixel groups, is mapped in a two-dimensional array.

Applicant has amended independent claims 20, 24, 30, and 33 along the same lines that claim 1 has been amended. Applicant has amended independent claims 22, 26, and 31 along the same lines that claim 5 has been amended. Applicant has amended independent claim 28 so that the dot number specification module recited therein has the same features as the dot number specification module recited in present claim 1.

The *Zhang* reference discloses a digital image processing system for converting continuous-tone images into halftone images to be output by a receiver with limited storage capacity. In the *Zhang* reference, the number of thresholds is restricted to the number of

pixels included in the pixel block at the maximum (the number is 16 in Figure 3). On the other hand, the presently claimed subject matter specifies that thresholds that are selected from among various types of thresholds, the number of which is greater than the number of pixels included in a pixel group, are mapped in a two-dimensional array. As such, the configurations defined in the presently claimed subject matter produce multiple combinations of thresholds for respective pixel groups, the number of which is greater than the number of pixels included in each pixel group. Consequently, in contrast with the *Zhang* reference, the relation between the tone value of each pixel group and the number of dots to be created in each pixel group is quite diverse.

Thus, for at least the foregoing reasons, the *Zhang* reference does not disclose each and every feature of the subject matter defined in present independent claims 1, 5, 20, 22, 24-26, 28, 30, 31, and 33.

Accordingly, independent claims 1, 5, 20, 22, 24-26, 28, 30, 31, and 33, as amended herein, are patentable under 35 U.S.C. § 102(b) over *Zhang*. Claims 2 and 4, each of which depends from claim 1, claims 6 and 8, each of which depends from claim 5, claim 21, which depends from claim 20, and claim 25, which depends from claim 24, are likewise patentable under 35 U.S.C. § 102(b) over *Zhang* for at least the same reasons set forth above with regard to the applicable independent claim.

#### Provisional Rejection for Obviousness-Type Double Patenting

Applicant respectfully requests reconsideration of the provisional rejection of claims 1, 2, 4-6, 8, 20-22, 24-26, 28, 30, 31, and 33 on the ground of obviousness-type double patenting as being unpatentable over claim 1 of copending Application No. 10/550,900. As discussed above, Applicant has amended each of independent claims 1, 5, 20, 22, 24-26, 28, 30, 31, and 33. Applicant respectfully submits that the subject matter defined in each of present claims 1, 5, 20, 22, 24-26, 28, 30, 31, and 33 is not merely an obvious variation of the

subject matter defined in claim 1 of Application No. 10/550,900. As such, Applicant requests that the provisional rejection of claims 1, 2, 4-6, 8, 20-22, 24-26, 28, 30, 31, and 33 on the ground of obviousness-type double patenting as being unpatentable over claim 1 of copending Application No. 10/550,900 be withdrawn.

Conclusion

In view of the foregoing, Applicant respectfully requests reconsideration and reexamination of claims 1, 2, 4-6, 8, 20-22, 24-26, 28, 30, 31, and 33, as amended herein, and submits that these claims are in condition for allowance. Accordingly, a notice of allowance is respectfully requested. In the event a telephone conversation would expedite the prosecution of this application, the Examiner may reach the undersigned at **(408) 749-6902**. If any additional fees are due in connection with the filing of this paper, then the Commissioner is authorized to charge such fees to Deposit Account No. 50-0805 (Order No. MIPFP178).

Respectfully submitted,  
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